



## Fraction Comics

### A Fraction Practice Activity

► Grade level: 4-6

► Time: One or two 45 minute classes

► Lesson Plan Focus: To reinforce and apply the use of fractions.

► Correlation to National Education Standards

**Math Standards:**

NM-MUM.3-5.1 & NM-NUM.6-8.1 Understanding Numbers, Ways of Representing Numbers, Relationships Among Numbers & Number Systems

► Objectives: Students will correctly apply what they have learned about fractions by drawing comics illustrating fractions as they are directed. 80% accuracy will be expected.

► Preparing for the Activity: Review the steps for creating a comic. Go over the comic vocabulary as needed.

► Introducing the Activity: Cut comic strips from the Sunday newspaper to use as examples. Remind the students all of the panels together make one complete comic. Therefore, each panel in the comic represents a fraction of the whole. Show a comic strip, and ask questions such as, "What fraction of the comic panels contain a human? What fraction of the panels contains sound words? What fraction of the total panels contains an animal?" etc. Write these fraction answers on the board or the overhead and discuss as needed.

► Materials

Blank panels page to draw the comics on, pencils and erasers, and the Fraction Comics Directions page.

### ➤ Procedure

Explain that students will be following the directions given on the Fraction Comics Directions page to create their own comic strip. They will draw their comics on the blank panels page in pencil, paying close attention to the fractions given in the directions. Caution them that if the directions say that  $\frac{2}{3}$  of the panels should have speaking captions in them, they will have to be sure they don't have more or less. They may check each other's work as they go along.

### ➤ Assessment

The teacher should review the students' work as they draw their comics. When the comics are finished, they should be checked to see if they have understood and correctly translated the fractions given and that these are represented in the drawings in their comics.

Use the "Worksheet Comics Rubric" on page 117.

### ➤ Closure

Fractions are all around us. We use them every day, and they can be applied to many things, even the comics. Challenge students to come up with other applications for finding fractions in every day items.

### ➤ Extensions

1. Make an assignment for students to cut a comic strip from the newspaper, and write ten fraction facts about the panels.
2. Send the student-drawn fraction comics to another class and have them write ten fraction facts about the panels. Those facts can be checked by the students who originally created the comics and the papers returned graded to the other class.
4. Have students create a large "Super Comic" collage by gluing panels from several different strips onto poster board. These can be arranged in any way the students like. ( In this activity, the individual comic strips can be the fractional parts of the whole.) Then, have students complete a "survey" of the fractions in the comic, such as " $\frac{1}{4}$  of this super comic is composed of *Garfield*,  $\frac{1}{4}$  is made up of *Peanuts*, etc.
3. Teachers can make up their own fraction directions to go along with and review any subject area they may be teaching. For instance, the fraction practice could be combined with any curriculum by having the students draw panels including whatever is in the current chapter of study.
4. These comics may be finished by inking and coloring them and publishing them in a book that could be sent to lower grade levels.

Name \_\_\_\_\_

## Fraction Comics Directions Page

Follow the directions given to create your own "fraction" comic.

Be sure to read carefully. And have fun!

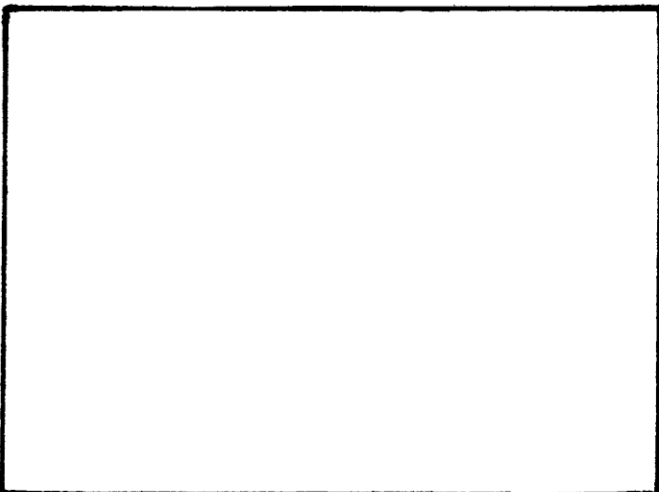
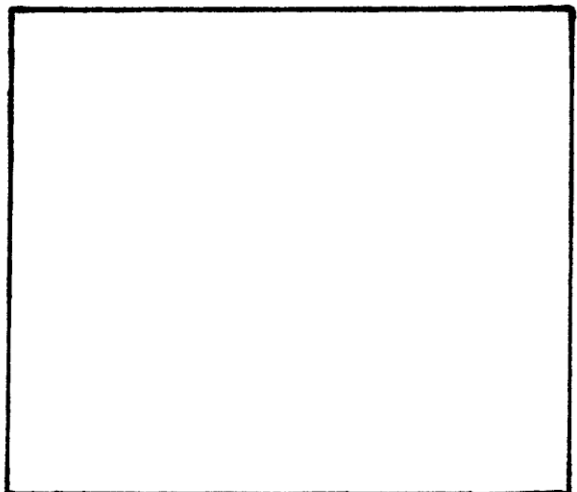
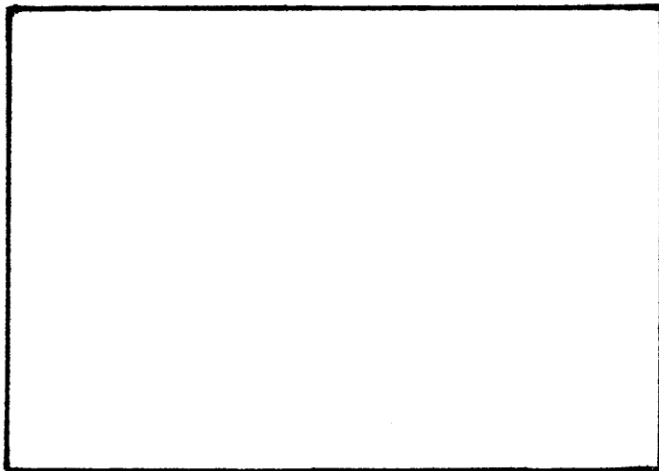
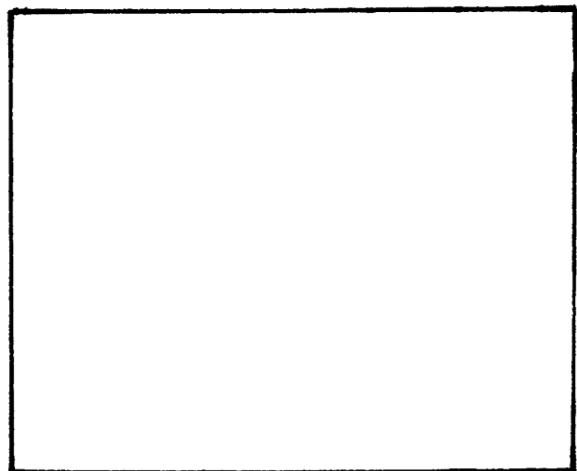
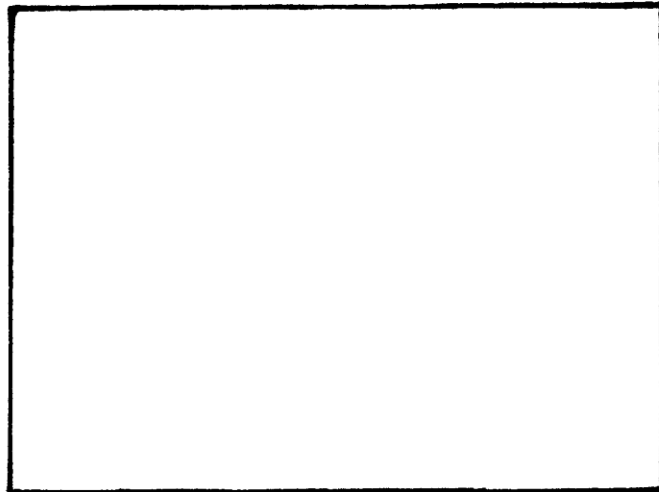
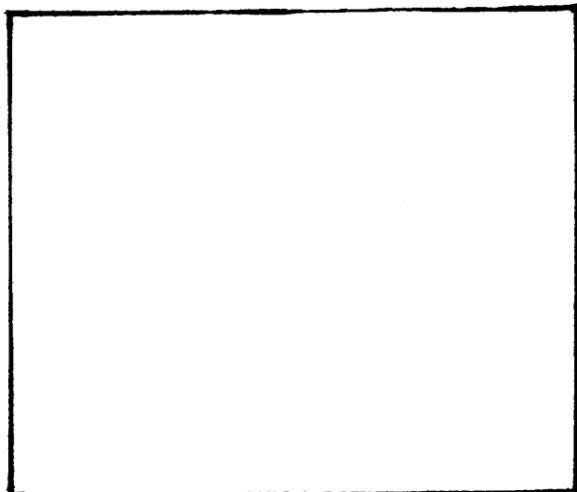
In this comic, a sunny day will be turning into a rainy day. The characters in the comic will react to this change. Think about some simple things they could say, and keep this in mind while you are drawing.

1. Count the squares on your blank panel page. Write the total number of panels here: \_\_\_\_\_
2. You will be putting the title of your comic in the first panel. So, your title panel will be what fractional part of the entire comic? \_\_\_\_\_
3. Draw the sun in the background of 3 of the panels of your comic. The sun will be in  $\frac{3}{6}$ , or  $\frac{1}{2}$  of your comic panels.
4. Draw clouds in the next to last panel. Clouds will be in what fraction of your total comic? \_\_\_\_\_
5. Show it raining in your last panel. What fraction of the total panels will it be raining in? \_\_\_\_\_
6. Choose an animal that will be your main character. Draw this animal in 5 of your panels. It can have different expressions and actions in the different panels. This character will be in  $\frac{5}{6}$  of your comic.
7. Now, add a new character to 4 of your panels. This character will talk to the other one you have already drawn. The new character will be in what fraction of your total comic? \_\_\_\_\_
8. Put a loud sound word in  $\frac{1}{6}$  of your comic. It should go along with the picture in the panel that you choose.
9. Have your characters speak to each other, and write what they are saying in caption bubbles.
10. Put the finishing touches on your comic and enjoy sharing it!

# FRACTION COMICS

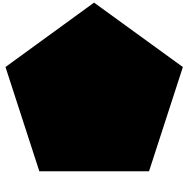
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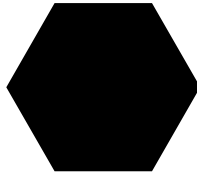


from

Math Analogies for 3<sup>rd</sup> – 5<sup>th</sup> Students










: pentagon ::



: \_\_\_\_\_

blue, purple, green, blue : blue =  $\frac{1}{2}$  ::    :  = \_\_\_\_\_

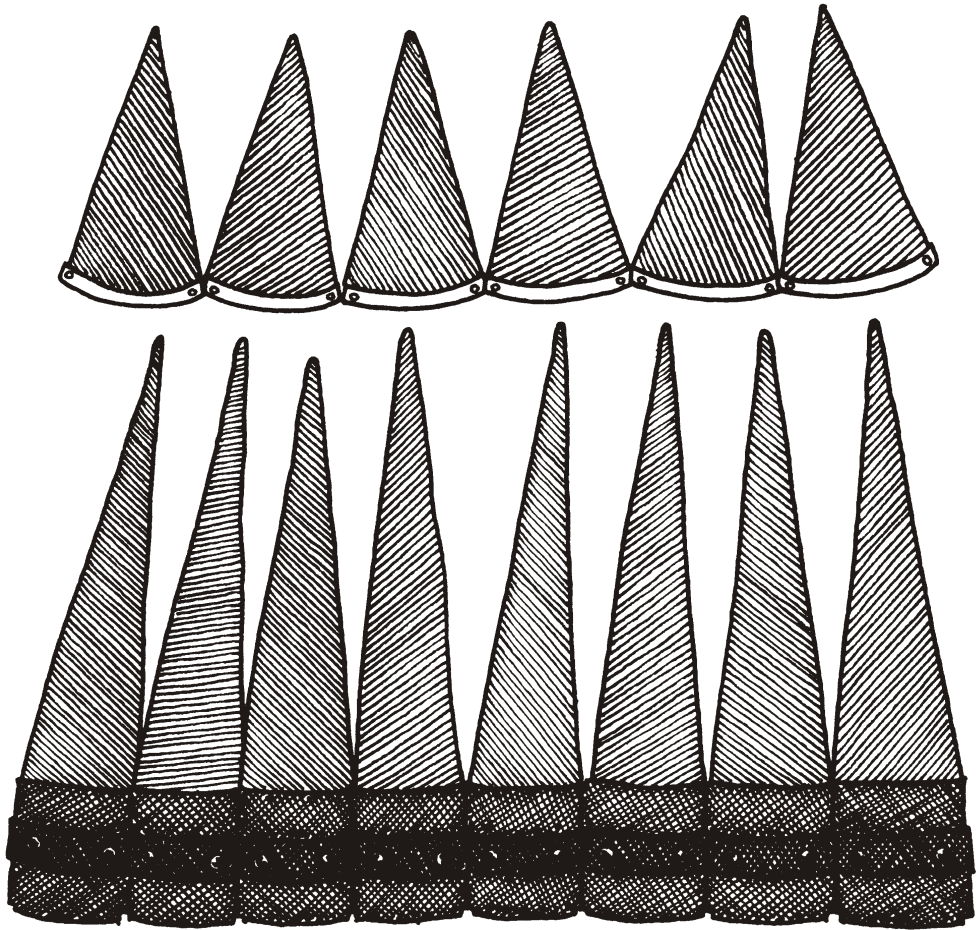
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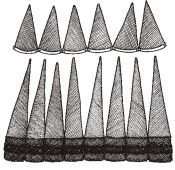
2, 4, 5, 10, 11, 22 : 23 :: 3, 6, 7, 14, 15, 30 : \_\_\_\_\_

999, 991, 983, 975 : 967 :: 844, 833, 822, 811 : \_\_\_\_\_

## WHAT IS THIS THING?



- A. A teaching tool for math
- B. Stakes to secure a tent
- C. Tie hangers



## A. A FRACTION SPHERE



This teaching tool for math was made from wood and could be opened in part or in whole to teach halves, thirds, fourths, and eighths.

Children of the 1800s were expected to recite aloud, often all at the same time. The child who did not say his fractions correctly could expect to be introduced to another type of wood, the hickory stick!

**Reference Math**

Below are a series of reference activities which are then added, subtracted, multiplied, or divided to reach the final answer. There are no fractions or remainders. Answers can be found in the World Book Encyclopedia, though most are contained in other sources as well.

**E  
N  
C  
Y  
C  
L  
O  
P  
E  
D  
I  
A**

- A.
1. Begin with the age at which V. I. Lenin learned to read. \_\_\_\_\_
  2. Multiply by the number of years Ulysses' journey lasted. \_\_\_\_\_
  3. Multiply by the largest number of chambers a single-shot revolver has.  
\_\_\_\_\_
  4. Divide by the number of John Aaron Lewis's stream music. \_\_\_\_\_
  5. Divide by the number of words in Edison's first message on the phonograph.  
\_\_\_\_\_
  6. Multiply by the number of the Constitutional Amendment that gave Washington, D.C. three votes in the electoral college. \_\_\_\_\_
  7. Add the number of the acronym of Saul Alinsky's Woodlawn Organization.  
\_\_\_\_\_
  8. Divide by the number James I became when he was made King of Scotland.  
\_\_\_\_\_
  9. Add the number of the last pope named John. \_\_\_\_\_
  10. Divide by the number of Brazil's last monarch. \_\_\_\_\_

Answer: \_\_\_\_\_

- B. Using the pattern given above develop your own **Reference Math Quiz** for others to solve.



## Polyhedrons/3-Dimensional Figures

**Overview:** *These tiered assignments provide students with the opportunity to solidify their grasp of polyhedrons and to practice creating polyhedrons.* Before working on their assigned tasks, introduce students to the names, characteristics, and parts of a variety of polyhedrons. Complete the following introductory activities as a whole group or in smaller, randomly-assigned groups:

- ❖ Students explore a variety of 3-dimensional figures as the teacher introduces the term *polyhedron* (many-sided). How are these figures alike? Different?
- ❖ Students identify objects in the classroom that represent the polyhedrons they have examined. This can be accomplished through a “Polyhedron Hunt.”
- ❖ Introduce the parts of common polyhedrons (base, face, edge, vertex) and identify these parts on models of polyhedrons.
- ❖ Play a polyhedron guessing game. In this game, blindfold students and give them a polyhedron to hold and feel. What is the name of the polyhedron? What parts can they feel?

### Standards:

- Recognize the attributes of three-dimensional geometric figures
- Describe and make solid figures

### Objectives:

The students will **KNOW**

- Names of common polyhedrons (cube, prism, sphere, cylinder, cone, pyramid).
- Names of the parts of polyhedrons ((base, face, edge, vertex).

The students will **UNDERSTAND THAT**

- Geometric figures can be described and named based on their characteristics/parts.
- We can find geometric figures all around us.

The students will **BE ABLE TO**

- Describe polyhedrons.
- Identify the parts of polyhedrons.
- Create polyhedrons.

### Materials:

- Pattern blocks
- Models of a variety of polyhedrons
- Straws (cut into short segments) and twist ties

**Tier One (lower readiness)**

Students working on this tier work in pairs to create a variety of polyhedrons by stacking pattern blocks. As they work, they ask one another to guess which polyhedrons they have made. Encourage them to make the same polyhedrons in different ways by using different pattern blocks and by combining pattern blocks to create different bases for their polyhedrons.

After they have created several different polyhedrons with the pattern blocks, they remain in their pairs to play a reverse guessing game. One student secretly selects a polyhedron model and describes it to the other student who cannot see it. The second student will try to guess the name of the polyhedron based on the information provided. The pairs can play this game several times, taking turns as they go.

**Tier Two (higher readiness)**

Students in this group work independently to create some of the polyhedrons studied using straws and twist ties (the twist ties connect two straws and can be bent to create vertices). What polyhedron parts do the straws and twist ties represent? Have students create signs/labels for the polyhedrons they create, and display their polyhedrons.

After the students have created two to three common polyhedrons (depending on the pace at which they are able to work with the straws and twist ties), they use straws and twist ties to create original polyhedrons. Have them name their polyhedrons based on their characteristics. For example, a four-sided figure with one base could be named a “quadripyramid” based on its number of bases and faces. Have the students create signs/labels for their creations.

**Closure:** After the students have completed their tasks, review the term *polyhedron* as well as the names and the parts of common polyhedrons. Additional questions for discussion include:

- What is your favorite polyhedron? Why?
- Which polyhedron is the most important? Why?
- Is a sphere a polyhedron? Why or why not?

**Math Rules!**

3: Twenty



myself



partners



group

Name \_\_\_\_\_

1. Mrs. Clifford measured the height of several students in her class and listed the results on the chalkboard.

3rd GradersHeight

Adam	47 inches
Mabel	47 inches
Daniel	42 inches
Jonathan	51 inches
Katie	44 inches
Julie	45 inches

**The Average Height of  
the 3rd Graders is \_\_\_\_\_**

Steps to find an average:

- Find the sum of all the heights.
- Divide the sum by the number of students.



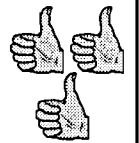
2. Another girl in Mrs. Clifford's class noticed that she was shorter than half her friends and taller than half of them.

How tall is she? \_\_\_\_\_



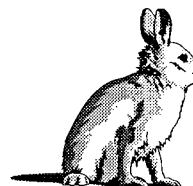
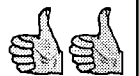
3. Study the pattern, then fill in the next three in the pattern.

- 1, 5, 2, 6, 3, 7, 4, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
- 1, 4, 2, 6, 3, 8, 4, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
- 3, 7, 4, 6, 5, 9, 6, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

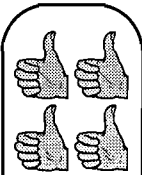
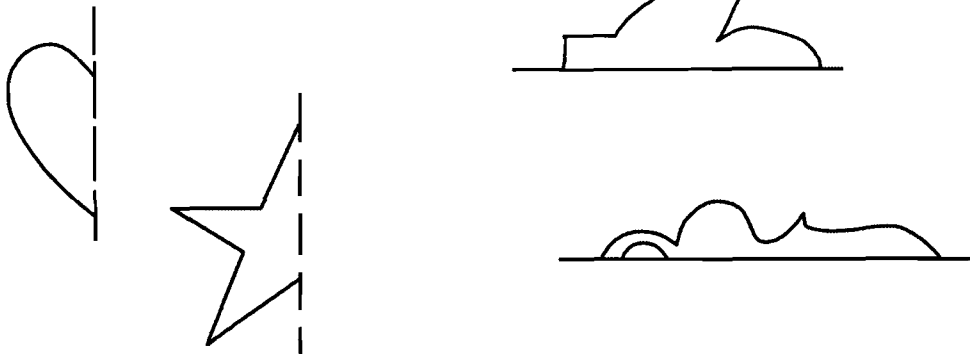


4. Grandma has angora rabbits. Calculate how many she has. She has more than 10 and less than 20. The number is an odd number and it's not eleven. It is less than  $9 + 6$ .

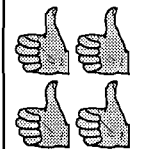
Grandma has \_\_\_\_\_ angora rabbits.



5. Draw the other half of the figure so that the drawing is symmetrical.



6. Food labels are required to list the number of calories in one serving of the food. To find the number of calories, the baker must (1) know the number of calories in each ingredient, (2) add them together, and (3) divide that sum by the number of servings for that batch of food.

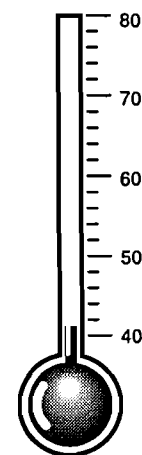


Find the calories that are in each serving of granola bars and cherry punch.

Granola Bars 7 Servings	
oats	240
flour	150
molasses	73
veg oil	66
fruit	80
Cal. per serv.	
<hr/>	

Cherry Punch 6 Servings	
orange juice	175
cherry	
concentrate	185
ice	0
Cal. per serv.	
<hr/>	

7. The temperature was 41° F at 8 A.M. It rose 17° by noon. Fill in the thermometer to show the temperature at noon.



8. 8, 16, 24, and 32 are multiples of

- a. 0      b. 6      c. 3      d. 8



**AWESOME**